Highlights of the Spallation Neutron Source Users Meeting
Washington, D.C., May 22-24, 2000

Spring in Washington is a time for cherry blossoms, budgets, and neutrons! More than 200 participants attended the second users meeting for the Spallation Neutron Source (SNS), held at the Renaissance Hotel. Neutron scatterers heard the latest news on the design and construction of SNS, as well as the anticipated performance of scattering instruments and the potential impact on all scientific disciplines. The recent announcement of National Science Foundation funding for a conceptual design study of a long wavelength target station (LWTS) stimulated attendees' discussion of the scientific justification for the LWTS and its potential instrument suite.

The meeting was kicked-off by Department of Energy Undersecretary for Energy, Science, and Environment, Ernest Moniz. The undersecretary was followed by several scientific presentations, including an overview of the contributions of neutrons to science by Sunil Sinha (ANL), high-pressure studies by John Parise (SUNY—Stony Brook), magnetism by Stuart Parkin (IBM), soft materials by Michael Klein (University of Pennsylvania), and engineering materials by Thomas Gnaeupel-Herold (NIST). Following the scientific presentations, parallel breakout sessions provided a forum for detailed examination of the science and associated instrumentation at SNS for both the high-power target station and the LWTS.

During the past year, significant enhancements have been incorporated into the SNS design and construction has begun. SNS Executive Director David Moncton reviewed the current status of the project, and, in a series of presentations, other project staff provided updates on all aspects of the facility. Figure 1 shows the layout of the facility based on a superconducting full-energy linac, accumulator ring, and mercury target. Designed to operate at 2 MW, more than an order of magnitude beyond the current state of the art at the ISIS facility in the UK, the SNS will include a full complement of offices, labs, and shops needed to support facility operations and the user program. These support facilities will be located in the Central Lab/Office building, adjacent to the target station. Also shown in Fig. 1 is the possible LWTS that is the focus of the study now under way. At the workshop, users took advantage of informal opportunities for discussions (see Fig. 2), conducted a business meeting for the Users Group, and heard about proposed non-neutron scattering uses of the SNS (which are not currently part of the project but could be undertaken if their champions secure funding and demonstrate that they do not detract from the SNS primary mission—neutron-scattering studies of the structure and dynamics of materials).

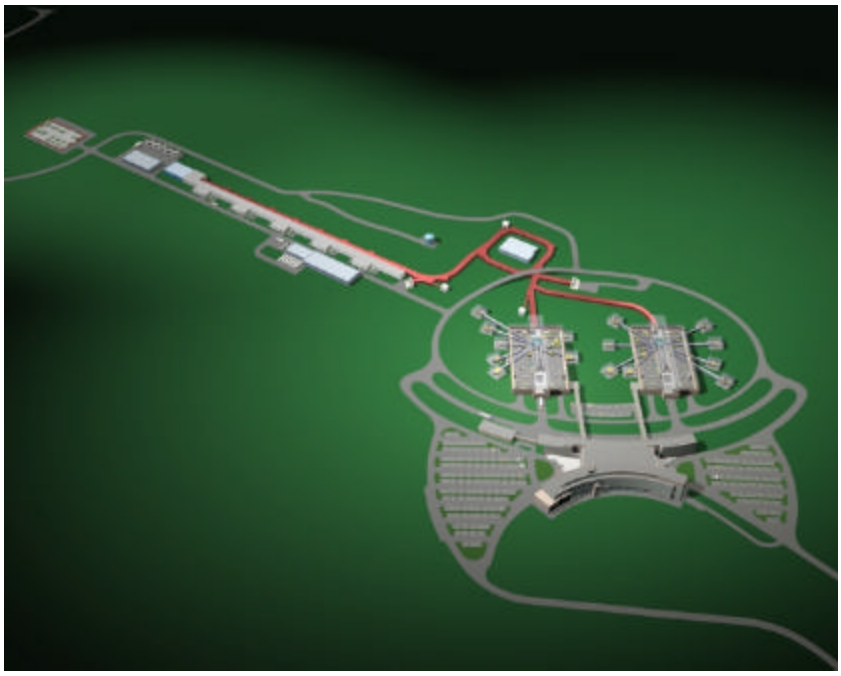

Fig. 1. The Spallation Neutron Source site layout incorporating a superconducting linac, expanded Central Laboratory Office Building, High-Power (2 MW) Target Station, and possible Long Wavelength Target Station.

Fig. 2. Herb Mook (ORNL), Jeff Lynn (NIST), David Belanger (UC Santa Cruz and chair of the Users Group Executive Committee), and Thom Mason (SNS) discussing prospects for exciting science at the SNS.

Over the course of the three-day meeting, Senator Bill Frist (R-TN), Congressman Zach Wamp (R-TN), and Congressman Vern Ehlers (R-MI) spoke in support of the SNS. The congressmen were optimistic that SNS funding would remain a high priority through a difficult budget year.

In addition, the Neutron Scattering Society of America (NSSA) sponsored a reception that featured presentations about U.S. science policy and the SNS. These presentations were given by Dr. Arthur Bienenstock, Associate Director for Science in the Office of Science and Technology Policy, and Dr. Joseph Bordogna, Deputy Director of the National Science Foundation. Following these presentations, NSSA president, Jim Rhyne, discussed NSSA activities and priorities and reviewed the upgrade plans and operating schedules for the four existing neutron user facilities. The enhancements to the present facilities, including several new instruments, new or improved cold sources, and increases in source intensity or operating time are designed to ensure the continued availability of good neutron-scattering capabilities in advance of the completion of the SNS.

Overall, attendees at the meeting left with an appreciation of the major progress being made on design and construction of the SNS facility and the importance of user input to the instrument design teams. There was a clear feeling that neutron scattering in the U.S. is in a strong uptrend for the future.